IN THE CLAIMS:

Please cancel originally-filed claims 1-47, without prejudice. In addition, please add new claims 48-97, as provided below. The listing of these claims are as follows:

Claims 1-47 (Canceled).

48. (New) An apparatus for imaging at least a portion of a sample, comprising:

a first inferometric arrangement providing an electro-magnetic radiation; and

a second arrangement configured to receive the electro-magnetic radiation, and configured to generate a resultant electro-magnetic intensity distribution,

wherein, along a particular direction, the intensity distribution is approximately constant for at least a predetermined distance.

49. (New) The apparatus according to claim 48, wherein the second arrangement is an optical arrangement which is configured to optically image the sample.

50. (New) The apparatus according to claim 48, wherein the second arrangement is an axicon lens.

51. (New) The apparatus according to claim 48, wherein the second arrangement is a defractive optical element.

52. (New) The apparatus according to claim 48, wherein the second arrangement is an annulus.

53. (New) The apparatus according to claim 48, wherein the second arrangement includes a combination of a diffractive element and a lens.

54. (New) The apparatus according to claim 48, wherein the second arrangement includes a combination of an apodized lens, a hologram and a diffractive element.

55. (New) The apparatus according to claim 48, wherein the intensity distribution is a Bessel beam.

56. (New) The apparatus according to claim 48, further comprising a third arrangement adapted to cooperated with the second arrangement so as to translate at least one of the intensity distribution and the sample.

57. (New) The apparatus according to claim 56, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

58. (New) The apparatus according to claim 48, wherein the intensity distribution full width at half maximum is less than 10μm.

59. (New) The apparatus according to claim 48, wherein the predetermined distance is at least 50μm.

60. (New) The apparatus according to claim 48, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

61. (New) The apparatus according to claim 48, further comprising a fourth arrangement configured to received information that is associated with the intensity distribution, and display an image based on the received information.

62. (New) An apparatus for imaging at least a portion of a sample, comprising:

a first inferometric arrangement providing an electro-magnetic radiation; and

a second arrangement configured to receive the electro-magnetic radiation, and configured to generate a resultant electro-magnetic intensity distribution,

wherein, along a particular direction, widths of at least two sections of the intensity distribution are approximately the same.

63. (New) The apparatus according to claim 62, wherein the particular direction is approximately a vertical direction.

64. (New) The apparatus according to claim 62, wherein the second arrangement includes a plurality of lenses.

65. (New) The apparatus according to claim 62, wherein one of the sections is at least partially above another one of the sections.

66. (New) The apparatus according to claim 62, wherein the intensity distribution full width at half maximum is less than 10μm.

67. (New) The apparatus according to claim 62, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

68. (New) The apparatus according to claim 67, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

69. (New) The apparatus according to claim 62, further comprising a third arrangement adapted to cooperated with the second arrangement so as to translate at least one of the intensity distribution and the sample.

70. (New) A method for imaging at least a portion of a sample, comprising:

a) providing an electro-magnetic radiation using an inferometric arrangement;

b) receiving the electro-magnetic radiation and generating a resultant electro-magnetic intensity distribution, wherein, along a particular direction, the intensity distribution is approximately constant for at least a predetermined distance.

71. (New) The method according to claim 70, wherein step (b) is performed using an optical arrangement which is configured to optically image the sample.

72. (New) The method according to claim 70, wherein step (b) is performed using an axicon lens.

73. (New) The method according to claim 70, wherein step (b) is performed using a defractive optical element.

74. (New) The method according to claim 70, wherein step (b) is performed using an annulus.

75. (New) The method according to claim 70, wherein step (b) is performed using a combination of a diffractive element and a lens.

76. (New) The method according to claim 70, wherein step (b) is performed using a combination of an apodized lens, a hologram and a diffractive element.

77. (New) The method according to claim 70, wherein the intensity distribution is a Bessel beam.

78. (New) The method according to claim 70, further comprising translating at least one of the intensity distribution and the sample.

79. (New) The method according to claim 78, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

80. (New) The method according to claim 70, wherein the intensity distribution full width at half maximum is less than 10μm.

81. (New) The method according to claim 70, wherein the predetermined distance is at least 50μm.

82. (New) The method according to claim 70, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

83. (New) The method according to claim 70, further comprising the steps of receiving information that is associated with the intensity distribution; and displaying an image based on the received information.

84. (New) A method for imaging at least a portion of a sample, comprising:

providing an electro-magnetic radiation using a inferometric arrangement; and

receiving the electro-magnetic radiation, and generating a resultant electro-magnetic intensity distribution, wherein, along a particular direction, widths of at least two sections of the intensity distribution are approximately the same.

85. (New) The method according to claim 84, wherein step (b) is performed using an optical arrangement which is configured to optically image the sample.

86. (New) The method according to claim 84, wherein step (b) is performed using an axicon lens.

87. (New) The method according to claim 84, wherein step (b) is performed using a defractive optical element.

88. (New) The method according to claim 84, wherein step (b) is performed using an annulus.

89. (New) The method according to claim 84, wherein step (b) is performed using a combination of a diffractive element and a lens.

90. (New) The method according to claim 84, wherein step (b) is performed using a combination of an apodized lens, a hologram and a diffractive element.

91. (New) The method according to claim 84, wherein the intensity distribution is a Bessel beam.

92. (New) The method according to claim 84, further comprising translating at least one of the intensity distribution and the sample.

93. (New) The method according to claim 84, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

94. (New) The method according to claim 84, wherein the intensity distribution full width at half maximum is less than 10μm.

95. (New) The method according to claim 84, wherein the predetermined distance is at least 50μm.

96. (New) The method according to claim 84, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

97. (New) The method according to claim 84, further comprising the steps of receiving information that is associated with the intensity distribution; and displaying an image based on the received information.